

Math 1  
Exam 5 Review

Exam 5 will be on Thursday, January 26. All of the standards from module 5 will be on this exam:

- **5A: function features** Students identify key features (including increasing/decreasing, domain/range, extrema, continuity, and intercepts) of a function from different representations (including graph, table, equation, or verbal).
- **5B: function graphs** Students sketch appropriately labelled graphs showing key features.
- **5C: function translation** Students translate functions among symbolic representation, tables, and graphs.
- **5D: function comparison** Students compare functions from various representations.
- **5E: function arithmetic** Students combine functions arithmetically from various representations.
- **5F: create function** Students create functions from given inputs and outputs.
- **5G: function application** Students create real world problems involving functions.

Notation

For continuous functions, we use interval notation to describe domain and range as well as where the function is increasing or decreasing. We use brackets to include endpoints and parentheses to exclude endpoints. Note that  $-\infty$  and  $\infty$  are *always* excluded. For intervals of increasing and decreasing, we work with the values of  $x$ , and we *never* use brackets.

The symbol  $\mathbb{N}$  stands for the set of all natural numbers:  $\{1, 2, 3, 4, 5, \dots\}$

The symbol  $\mathbb{Z}$  stands for the set of all integers:  $\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$  We use  $\mathbb{Z}$  for this set because of the German word for this set, which is “Zahlen” (pronounced “tsah-lenn”).

The symbol  $\mathbb{R}$  stands for the set of all real numbers. Thus,  $\mathbb{R} = (-\infty, \infty)$ .